3 - Static Testing

## > Static Testing Basis

**Early detection of defects before dynamic testing is performed**

**Static Testing** characteristics:

* It doesn't require the execution of the software being tested.
* It relies on the manual examination of the **work products**.
* It is the cheapest test.

**Work Products:** Represents the **output** of an activity

**Development work products**

Some outputs of development activities are:

* Code
* Diagrams
* Documents

**Test work products**

Some outputs of testing activities are:

* Test Plans
* Test Results
* Tests Cases
* Tests Suites
* Tests Reports
* Automation Scripts

**Where can we do Static Testing?**

* In epics, user stories, tickets.
* In architecture and design specifications
* In the code
* In testware, including test plans, test cases, test procedures, and automated test scripts
* In user guides

### **Static and dynamic testing complement each other**

## > Review Process

### Formal Review Process

1. Planing
2. Initiate review
3. Individual review
4. Issue communication and analysis
5. Fixing and reporting

### Roles in a Formal Review

* Author - Who coded the feature/change/fix
* Management - Responsible for review planning, assings staff, budget and time
* Moderator (Facilitator) - Mediates between different point of views.
* Review Leader - Takes overall responsibility for the review, decides who will be involved.
* Reviewers - Those who make the review.
* Scribe (recorder) - Who writes and records issues found, open points or decisions taken.

### Types of Reviews

* **Informal Review** - No formal process, **like pair programming**, technical meetings or just reviewing designs and code. Purpose: Cheap, inexpensive way to get some benefit.
* **Walkthrough** - **Led by author**, like dry runs. Purpose: Learning, gaining understanding, finding defects.
* **Technical Review** - Ideally **led by trained moderator**, documented, optional use of checklist, includes peers and technical experts. Purpose: Making decisions, following code standards and finding defects.
* **Inspection** - Led by trained moderator, has defined roles, includes metrics gathering, formal process based on rules and **checklist**, specific entry and exit criteria. Purpose: Finding defects.

The most formal review: **Inspection**

### Review Techniques

* **Ad hoc**. Little or no guidance, little preparation.
* **Checklist-based**. Based on checklists
* **Scenarios and dry runs**. Based on expected usage
* **Perspective-based**. Based on perspectives of different stakeholders
* **Role-based**. Evaluation by different roles of stakeholders